

The Commonwealth of Massachusetts

ANNUAL REPORT

OF THE

Commissioner of Conservation

AND

State Forester

FOR THE

YEAR ENDING NOVEMBER 30, 1925

Mass. DEPARTMENT OF CONSERVATION



STATE HOUSE BOSTON
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OUTLINE OF REPORT

This report is divided for convenience and economy into four parts:—

- Part I. The organization and general work of the Department of Conservation.
- Part II. The work of the Division of Forestry.
- Part III. The work of the Division of Fisheries and Game.
- Part IV. The work of the Division of Animal Industry.

Parts I and II are printed in one volume as Public Document No. 73.

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1925
The Commonwealth of Massachusetts

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PART I

ANNUAL REPORT OF THE COMMISSIONER OF
CONSERVATION

The Department of Conservation composed of the division of forestry, the division of fisheries and game and the division of animal industry, is engaged in promoting activities that are absolutely essential in assuring to the citizens of Massachusetts the fullest measure of health and prosperity possible of attainment. The various activities of these divisions during the past year are reported in the fullness of detail on other pages of this document.

Pursuant to the requirement of the statute under which the department was created, the Commissioner and directors have met in conference and passed upon all matters of more than ordinary moment relating to the activities of the department. Twenty-two such meetings have been held during the year and an accurate account of the business transacted has been recorded in the books of the department. The annual report of this department, especially as it relates to forestry, would not be complete without referring to the valuable advice and cooperation which has been given by Prof. Richard T. Fisher, Director of the Harvard Forest. During the past season Professor Fisher invited the assistant foresters, district forest wardens and the superintendents of two state forests to a three-day meeting at the Harvard Forest in Petersham, where he gave them valuable information concerning silvicultural methods, and general information relating to scientific methods of forestry. The Harvard Forest demonstrates the management of a tract of forest land brought to a high degree of scientific skill, and we hope that in the course of time our state forests may be in the same state of development.

CONSERVATION OF OUR FORESTS

Any nation or state that would prosper continuously must conserve its natural resources. Without the proper conservation of these resources, which furnish our raw material, the business of modern civilization cannot be carried on. Nature renews much without our help, provided she is left untrammelled. But in the case of our forests she has been hindered by man's shortsightedness and waste. The forest will renew itself, if man does not interfere. But clean cutting, leaving slash on the ground, and forest fires not only destroy the present crop but kill the seeds and seedlings for future forest crops. Therefore, what man has destroyed, he must make good, if he would prosper. Otherwise, he must do as primitive man had the habit of doing, migrate to another part of the world, where the primeval forest still existed, or do as the modern man does, bring at a great expense the products of the primeval forest at a distance to him here. This we are doing in Massachusetts at the present time. Our lumber supply is largely Oregon and the northwest. How long will this supply last?

In Massachusetts a far-seeing legislature in 1919 passed a law committing the state to the purchase of 100,000 acres of wild and waste land, and the planting of the same to pine and other conifers: This the Department of Conservation is endeavoring to do, as the legislature doles out to us small sums of money. The legislature of 1919 was generous, and succeeding sessions have been kind to us, and far seeing, but a spirit of economy has interfered with our program. Is this the time for economy in this matter? Our opinion is that the time of economy is not when the state has just embarked on this great work. We have purchased many thousand acres of land, and have as yet planted only a small proportion of this. We desire to get the trees in the ground. Once they are there well-rooted, and weeded and tended for a few years, the start is made, and the forest crop of future generations is established. In order to do this, our nurseries must be kept in good running order and if necessary, an increase in the number of trees ready for planting must be made each year, until we have satisfied all the demands for seedlings.

CONSERVATION OF DOMESTIC ANIMALS

The work of the Division of Animal Industry in the control and eradication of contagious diseases of our domestic animals is one of true conservation of valuable resources. The relation of our domestic animals to public health, to the production of food and raiment, to agriculture and the many lines of commercial industry calls attention to the necessity of maintaining this relation at the proper standard which can only be accomplished by the prevention, control and eradication of the several contagious diseases to which the animals are subject.

When we consider that certain of our domestic animals furnish a large portion of the food supply by their products during life and by the utilization of the carcasses when slaughtered, also that they are the original factors in the production of raiment for the people, that successful agriculture is not possible without them, that many lines of business are dependent upon their use as toilers on the farms, as servants in transportation, and that the present progress in scientific protection of the public health is being greatly aided by their use in the laboratory, it can readily be seen that the function of the Division of Animal Industry in the maintenance of the health of our domestic animals is a very important one in the whole scheme of public welfare.

A branch of the division's work which has developed very rapidly in recent years is the eradication of bovine tuberculosis by the use of the tuberculin test. This work is of great value, not only in improvement of health conditions of live stock but it is an important factor in lowering the incidence of human tuberculosis due to bovine origin. Many cattle owners have a laudable desire to eliminate tuberculosis from their herds and this work is receiving strong support, not only from the livestock owners, but also from public health officials who realize that it is a great aid in the protection of the health of the people in its relation to purification of the milk supply. The growth in public sentiment approving the work now being done in this direction and the activities of local health officials to the same end, have resulted in a greatly increased demand for the service of this division in the tuberculin testing of cattle.

The number of town and city boards of health which have passed ordinances requiring that all raw milk sold in their municipalities shall have been produced by cows which have passed an official tuberculin test, has rapidly increased during the past year. We have on file a large number of requests for this service for which we hope appropriation by the coming legislature will be made. No legislation in assistance of the administration of the so-called tuberculin test law shall be asked for this year, except a slight amendment of the Act which refers to the marking for identification of animals which react to the tuberculin test.

I refer to the accompanying report of the Director of Animal Industry for a detailed description of the service of this division.

CONSERVATION OF WILD LIFE

The public is rapidly taking an increased interest in wild life sanctuaries. It is natural for any one to immediately assume that when a given area has been acquired to be a State Forest, or for the purpose of carrying on forestry activities such area should immediately be regarded as an ideal wild life sanctuary. We are coming to realize that this is not the case. While the State Forests may be in many respects, favorable regions for certain forms of wild life, nevertheless conflicts will sooner or later appear that are largely insuperable.

For example, a State Forest is regarded primarily as a lumber proposition. It will be many years before esthetic considerations will be much of a factor in determining the use of such forests. That growing tendency will be to require these forests to make a return upon the money invested. On them the modern business administration of forestry must be applied. When the trees are in their prime for lumber purposes they will be cut down,—on a system, to be sure, but nevertheless cut down. We have no criticism of this routine, believing that it is the proper administration of our State Forests as such. We are setting apart and growing these forests for the reason that we need the lumber. The fact that such a forest will be a beautiful thing on the landscape must of necessity be a secondary consideration.

In order to avoid fire hazards, underbrush must be cleared away. After a cutting

the slash must be removed. A certain amount of cultivation must be carried on, such as the elimination of all shrubs that may be an intermediate host in the spreading of diseases of our trees. There are other respects in which we could develop the idea, but the foregoing is sufficient to show that the development of a forest is a business proposition, and such considerations as can be given to the welfare of the wild life on the area are of decidedly secondary importance.

The selection of a wild life sanctuary involves an entirely different set of considerations. On such sanctuary it would be desirable to have sections of substantial tree growth as protection to certain species of wild life. When a tree reaches its prime it will not be cut down. A certain number of such trees, gradually going to decay, afford the finest feeding grounds for some of our insectivorous birds, as well as nesting places. On other areas, even desirable trees will not be permitted to grow beyond a given size before they must be thinned out in order to maintain a uniform sapling growth that will be favorable to such species as the woodcock, both in the breeding and migrating seasons. On other areas food-bearing shrubs of all kinds should be maintained in abundance, even with the possibility of some fire risk. Other areas that may be suitable for the growth of certain trees should be rendered unfit for such growth by the flooding necessary to maintain breeding and feeding areas for water fowl. And thus the propositions could be amplified over many details. It is well to keep this distinction in mind when we consider the subject of State Forests and wild life sanctuaries. It has been demonstrated in the Myles Standish State Forest that deer and a State Forest do not always get along well together, and in such an event the deer will either have to be driven off, or else reduced in numbers to a harmless minimum. On an area designed primarily as a wild life sanctuary, they could roam at will.

On some of our forests, however, while they are in the process of development, it will be quite feasible to apply some of the sanctuary principles. For example, a portion of such forests can be set aside as a wild life sanctuary, and in this area much can be done to make it increasingly attractive to wild life without retarding forest development. Other areas may be open to public shooting under proper control. But in the long run, the best results will be obtained, in so far as wild life is concerned, by selecting for sanctuary purposes areas most naturally favorable to the development of an abundant food supply and a biological environment as nearly permanent as it is possible to make it.

STATE FORESTS

The purchase of land for state forests has continued through the year. A total of 10,877.627 acres has been acquired in 1925. It was intended by this department to finish if possible the purchase of the 100,000 acres of land required by the act of the legislature of 1920 this year, thus leaving the balance of money and time for the development of the land. But lack of funds has limited our purchases this year.

The land is distributed as follows:

Beartown State Forest	552.83
Clarksburg State Forest	444.
Colrain State Forest	12.
Conway State Forest	26.
Erving State Forest	91.5
Hubbardston State Forest	28.87
Monroe State Forest	317.6
Myles Standish State Forest	106.81
Oakham State Forest	84.
October Mountain State Forest	45.
Otis State Forest	1,298.3
Otter River State Forest	28.25
Sandisfield State Forest	765.05
Shawme State Forest	2,671.107
Shutesbury State Forest	120.36
Tolland-Granville State Forest	1,200.
Wendell State Forest	316.4
Windsor State Forest	594.8

NEW FORESTS

Barre State Forest	233.5
Brimfield State Forest	463.5
Martha's Vineyard State Forest	25.
Oxford State Forest	28.7
Warwick State Forest	358.
Unassigned	146.

There was also acquired by exchange the following:

Mohawk Trail State Forest	118.
Monroe State Forest	570.97
Savoy Mountain State Forest	231.08

10,877.627

STANDISH MONUMENT RESERVATION

We are pleased to report that the last session of the General Court made an appropriation to be applied to the repair of the statue of Captain Myles Standish which surmounts the monument and which was seriously damaged by lightning during an electrical storm in 1922.

Since this reservation was taken over by the Commonwealth there has been a steady increase in interest shown on the part of the public as attested by the multitudes who visit it each year. Mr. Wilfred C. Dawes, the custodian, reports that during the season commencing May 23, 1925, and ending October 12, 1925 there was a total of 85,601 visitors and of this number 9,516 ascended the monument. A fee of ten cents was charged for admission to the tower, making a revenue of \$951.60 from this source. As in previous years, visitors came from each state in the union and from all parts of the world, even from South America, South Africa and New Zealand.

Because of the great number of visitors to this reservation, the Commissioner has for the past three years recommended the construction of a comfort station there but we regret to say that up to the present time no financial provision has been made for the erection of this much needed convenience.

WHITE PINE BLISTER RUST

The Massachusetts Department of Agriculture, through its Division of Plant Pest Control, continued during the year 1925 its participation in the state-wide campaign to prevent the further spread of the white pine blister rust—a serious plant disease which is fatal in its attack upon white pine trees. The control of this disease is accomplished by the elimination of currant and gooseberry bushes which are the alternate host plants of the fungus which causes this disease. During the year, the department rendered assistance to 1,763 land owners in making examinations on 194,851 acres of land, 110,892 acres of which are producing white pine. The cooperating owners expended the equivalent of \$5,554.15 in this protective work. From these lands, 706,830 wild and 33,610 cultivated currant and gooseberry bushes were eradicated at a total average cost of 11 cents per acre.

The stage of the disease as it appears on white pine, has been recorded in 187 towns in Massachusetts up to November 30, 1925. These figures indicate that the disease is generally distributed throughout the state in local centres from which there is likely to be a spread unless the alternate host plants are promptly eliminated.

LECTURES AND CONVENTIONS

The sustained interest in forestry is shown by the numerous requests for lectures, most of them illustrated by lantern slides. During 1924 these lectures numbered 105, only two less than the high-water mark reached in 1924.

In addition the department was represented at the following meetings outside of the state:

New England Foresters, Old Orchard, Me.
Conference on State Parks, Skyland, Va.
Forest Fire Conference, Washington, D. C.

EXHIBITS

As usual the department put in an extensive exhibit in the state building at the Eastern States Fair. A central feature of this exhibit was a forest scene in miniature, or rather two scenes, that on the right picturing a cut-over and burned-over country with a fire still burning, a dried-up river and a deserted community, while on the left was the green forest, an active sawmill, prosperous homes and a clear running stream, a vivid picture of the difference between forest conservation and devastation.

We also made up a traveling exhibit on two auto trailers, one containing forest fire equipment and the second nursery stock which we took to the Barre and Gardner fairs.

An exhibit was placed in the New Ocean House at Swampscott on the occasion of the annual meeting of the State Federation of Women's Clubs.

The stereomotograph with its colored slides was loaned to ten libraries for periods of from one to three weeks.

EXTENSION FORESTRY

The Clarke-McNary bill passed by Congress at the last session provides for cooperation between the Federal government and the states in different lines of forestry work, one of these being "farm forestry extension," which means the education of the farmer and small woodlot owner in the management of his wood and waste lands. Massachusetts receives from the Federal appropriation \$1,500 per year through the Agricultural Extension Service at Amherst. Through the cooperation of the director for this state, Mr. J. D. Willard, this money is paid over to this department and we carry out the program of forestry extension. All educational work and contacts with the woodlot owners is classed as extension work and is carried out as far as possible in cooperation with the county agricultural extension services. As this arrangement was only completed about the first of October, it is too early to detail any results thus far.

RECOMMENDATIONS OF THE DEPARTMENT OF CONSERVATION

Division of Forestry

1. *Prevention of Forest Fires.* While the operation of the forest fire prevention system has been productive of gratifying results, the Commissioner is convinced that the laws under which it was created can be so amended as to make it far more effective in the future. When it is considered that the department has already acquired in the name of the Commonwealth approximately 100,000 acres of land for forestry purposes, and will continue to acquire land for that purpose for several years to come, it becomes apparent how essential it is to afford the greatest amount of fire protection possible.

Under existing statutes in towns, forest wardens are appointed by the selectmen and in cities by the mayor and aldermen. These wardens have sole charge of the prevention and extinguishment of fires which occur within their respective towns. Inasmuch as the State Forester is charged in a general way with the control of forest fires throughout the state, it seems logical that he should be given more power with respect to the creation of a fire-fighting organization.

It is, therefore, recommended that the appointment of these forest wardens be given to the State Forester.

The Commissioner is also of the opinion that a part of the cost of extinguishing fires should be borne by the Commonwealth. Past experience has shown that while many towns consider the cost of fighting forest fires a serious burden, some towns even find it practically prohibitive. The forested areas of the state are found in the towns with the smallest valuation, and in such towns there is a reluctance to expend an adequate amount of money in fighting forest fires.

As a very large proportion of the state-owned forest lands are situated in these towns and as it is an acknowledged fact that forests are a distinct advantage to the Commonwealth and are enjoyed by all its people, it seems only just that the entire Commonwealth should share in the necessary cost of protecting them.

2. *Forest Tree Nursery.* Owing to the increasing demand for young trees for use on privately owned land in the central and western parts of the state and

because millions of trees will be required to plant the land already acquired for state forests in those sections of the state, the Commissioner believes that a nursery more centrally located than any we have at present should be established and would recommend that the existing statutes be so amended as to authorize him to do so.

RECOMMENDATIONS OF THE DIVISION OF FISHERIES AND GAME

1. *Salary of Director.* Owing to the steady growth of the volume of business in this division, it is the opinion of the Commissioner that the director is not receiving a salary commensurate with his duties and responsibilities. The Commissioner, therefore, recommends that the salary be increased.

2. *Fishing in Inland Waters.* Today no license is required to fish in ponds or streams not stocked subsequent to January 1, 1910. While the greater number of ponds and streams have been so stocked, the law requires the publication yearly of a list of stocked waters at the expense of considerable effort and money for their compilation and publication. If the Commonwealth has expended substantial sums to stock ponds prior to January 1, 1910, from which our fishermen are now receiving benefits, there is no logical reason for permitting these ponds to be fished without the purchase of a license. This requirement of law leads to considerable confusion and serves no practical purpose and should therefore be repealed.

3. *Taking of Pickerel.* The penalty for illegally taking pickerel is now fixed at one dollar whereas other species are protected by a minimum fine of ten dollars. As pickerel cannot be artificially propagated and must be maintained through the medium of protection, it is essential that an adequate and uniform penalty be prescribed by means of which protection can be enforced.

4. *Fishing Tackle.* At the present time a person is entitled to use ten traps for fishing through the ice. The principal fish caught in fishing through the ice is the pickerel. It begins to congregate on the breeding grounds early in the period when the ice forms, and remains in these localities until the spawning season starts about the time the ice leaves the ponds. These areas are well known to the fishermen and for that reason the ponds are more intensively fished through this period than at any other time in the year. Our investigation shows that 90 per cent of the pickerel taken through the ice are female fish containing spawn. We are not able to artificially propagate the pickerel and must rely on natural reproduction to keep up the stock in our ponds. The reduction of the ice fisherman's gear by 50 per cent will be a partial correction of the great destruction of pickerel which takes place during the period that our ponds and streams are covered by ice. This contemplated change in the law will have little effect on the summer fisherman.

5. *Lobster Fishing.* This act provides a penalty on the fisherman who dumps or destroys lobsters or receptacles containing them after he has been ordered by a warden to halt and display the lobsters in his possession. Wardens are seriously handicapped because of the fact that fishermen dump illegal lobsters when in danger of apprehension. In no other way can this practice be adequately stopped.

6. *Search and Seizure under the Law respecting Fish and Game.* Under existing law no officer of the division can obtain from any of our judges a warrant to search a dwelling house in order to obtain evidence of a violation of the fish and game laws. Short lobsters may be taken, and fish, birds and quadrupeds illegally killed, and if they can be gotten into a dwelling house they are safe from pursuit and the violators cannot be apprehended with their quarry. Unless our officers can have the use of search warrants under such conditions, with suitable safeguards to prevent any unreasonable violations of the right of privacy, it will continue to be extremely difficult, if not impossible, to stop many persistent violations of the fish and game laws.

7. *Lobster and Crab Fishing.* At the present time no license is required to set traps for the purpose of catching crabs. Yet the traps used in this fishery will take lobsters for the taking of which a license is required. Unless this law is extended to cover the taking of crabs it will be impossible to enforce the lobster license law as it should be enforced. This act will also impose a penalty upon any person who obtains a lobster fisherman's license by making false representations.

8. *To Reduce the Fee for a Sporting License Issued to Non-residents of the State.* It has become apparent that dissatisfaction has arisen over the fees charged to non-residents for both the straight sporting license and the special non-resident sporting

licenses as they were established by the last General Court. The accompanying bill is submitted without any specific recommendation as to the proper fees to be charged for these classes of licenses, in order that the matter may be opened for discussion and all parties given an opportunity to present their views.

9. *Training of Hunting Dogs.* Under the present law dogs cannot be trained on any protected species of birds or game between March 1 and September 1. This law does not prohibit the taking of fox hounds into the woods during this time or other dogs under the guise of hunting unprotected game. This serves to defeat the purposes of the law, i. e., to protect birds and game from disturbance during the breeding and nesting season and during the time when the young stock is practically helpless. Unless the wild life is free from all disturbance during this time the best results of conservation cannot be accomplished and for that reason it is recommended that the law be amended so as to prohibit the training or running of all dogs during the time above-mentioned.

10. *To Amend the Law Relative to Deer.* When the laws were re-codified the phraseology used in the deer law was such as to create a doubt as to what its real intent was concerning the possession of deer in the close season. This recommendation is to clarify the law on this point and to establish a law which can be enforced.

11. *To Provide a Close Season on Ruffed Grouse in Dukes County.* The decrease of ruffed grouse in this county has become apparent and the only way in which the decrease can be stopped and the birds restored in goodly numbers is through the medium of a close season of sufficient duration to reestablish them securely. That this can be done is demonstrated in the case of quail, which have become plentiful in this county as a result of a close season of several years with the result that an open season on quail in that county was possible this year.

12. *Hunting on State Reservations.* A law was passed at the last session of the General Court allowing the Commissioner of Conservation to declare an open season on deer in state forest reservations, but with the provision that authorization to hunt on such reservations should be by written permit. When the time came to declare such an open season, it became immediately apparent that such a method was not practical and that all persons holding a sporting license should be allowed to hunt on such reservations if such an open season was declared. The purpose of this act is to eliminate the requirement of written permits for this form of hunting.

RECOMMENDATIONS OF THE DIVISION OF ANIMAL INDUSTRY

1. *Salary of Director.* Owing to the steady growth in the volume of business in this division, it is the opinion of the Commissioner that the director is not receiving a salary commensurate with his duties and responsibilities. The Commissioner, therefore, recommends that the salary be increased.

2. *Tuberculin Test.* A detail of the administration of Chapter 353, Acts of 1922 (commonly called the "tuberculin test" law), is the marking of animals found diseased on the application of tuberculin test. At present, such animals are identified by a metal tag placed in the animal's ear, a method which in many instances fails to accomplish the desired purpose. Tags are frequently torn out of animals' ears by becoming caught on other objects, such as wire fences, etc.; they are sometimes forcibly removed by dishonest persons who seek to substitute cheaper animals at time of slaughter, a practice which is very difficult of detection.

Such occurrences render difficult the satisfactory completion of the many details which are necessary to prove the validity of claims for payment by the Commonwealth of the indemnity provided by law to such cases.

Experiments are now being conducted to find a means of identification which is practical, and at the same time unalterable either by accident or by wilful attempt at dishonesty.

In order that such means of identification may be at once instituted when found, I am submitting a bill to the legislature amending Chapter 129 of the General Laws as amended by Chapter 156 of the Acts of nineteen hundred twenty-four.

PART II

REPORT OF THE DIVISION OF FORESTRY

Because of the unfortunate attitude of the Governor in reducing the appropriations for this department, the forestry program outlined in our previous reports was seriously retarded. This reduction of funds forced us to curtail our much-needed development work on the state forests, obliging us to cut out in 1925 in large measure the practice of silvicultural methods on the state forests, such as needed thinning operations, fire lines, roads and planting of trees.

The effect of the attitude of the Governor on the suppression of gypsy and brown-tail moths was reflected in many cities and towns, causing them to cut down their appropriations for the work, and thus to leave undone much necessary work in the infested area. As a result of this, I am sorry to be obliged to report a marked increase of the insects this present season. This is especially true of the Cape Cod region, where 40,000 acres were completely or appreciably defoliated this summer. The result of this condition will be a large increase in expenditures in the future.

We are fortunate in this state in having the headquarters of the Northeast Forest Experiment Station of the United States Forest Service located at Amherst. This department is able to work in close co-operation with S. T. Dana, the director, and his corps of scientists to our mutual advantage.

ORGANIZATION

WILLIAM A. L. BAZELEY, Commissioner and State Forester
 CHARLES O. BAILEY, Secretary
 HAROLD O. COOK, Chief Forester
 D. C. A. GALARNEAU, Forester in Western Massachusetts
 FRANK L. HAYNES, Asst. Forester, Land Purchase
 JAMES MORRIS, Asst. Forester, Nurseries
 ROBERT B. PARMENTER, Asst. Forester, Mapping and Reforestation
 MAXWELL C. HUTCHINS, State Fire Warden
 GEORGE A. SMITH, Moth Superintendent

District Forest Wardens

1. James E. Moloy, Woburn
2. John H. Montle, Fall River
3. Wm. Day, Wareham
4. John P. Crowe, Westborough
5. Albert R. Ordway, Westfield
6. Jos. L. Peabody, Winchendon
7. Verne J. Fitzroy, Savoy

District Moth Superintendents

1. Michael H. Donovan, Beverly
2. William A. Hatch, Marlborough
3. John J. Fitzgerald, Haverhill
4. Clarence W. Parkhurst, Foxborough
5. Walter F. Holmes, Buzzards Bay
6. Harry B. Ramsey, Worcester

STATE PLANTATIONS

One new lot of sixty acres was planted and four others were completed. In addition, two lots were filled in and four replanted which had either been totally or partially burned over. In all, 243,500 transplants were set out during the months of April and May. These plantings were all successful and are all putting on good growth.

Liberation cuttings were made on thirteen reforestation lots comprising a total of 547 acres. We believe that liberation cuttings are of as much importance in forestry practice as reforestation. The following is a list of the lots worked on during the past year, giving the name of the lot, location, and work done.

Baker Box, Barre—35,000 trees planted.
 Shoot Flying Hill, Barnstable—5,000 trees planted.
 Bazeley, Uxbridge—6,000 trees planted.
 Brewster, Plymouth—15,000 trees planted.
 Crocker-Burbank, Ashburnham—35,000 trees planted.
 French, Hubbardston—30,000 trees planted.
 Hansen, Marlboro—80,000 trees planted.
 Herrick, Lynnfield—6,000 trees planted.
 Merrill, West Brookfield—20,000 trees planted.
 Pond, Leyden—10,000 trees planted.

Fiske, Weston—1,500 trees planted.
 Fullam, Oakham—Liberation cutting (115 acres).
 Spencer, Oakham—Liberation cutting (70 acres).
 Town of Templeton, Templeton—Liberation cutting (60 acres).
 Davis & Hadley, Templeton—Liberation cutting (107 acres).
 Lamb, Templeton—Liberation cutting (50 acres) and fire line.
 Town of Berkley, Berkley—Liberation cutting (12 acres).
 Fullam, West Brookfield—Liberation cutting (70 acres).
 Holmes, Kingston—Liberation cutting (14 acres).
 Jones River, Kingston—Liberation cutting (140 acres).
 Fiske, Buckland—Liberation cutting (10 acres).
 Weeks, Sandwich—Liberation cutting (20 acres).
 Holmes, West Brookfield—Liberation cutting (46 acres).
 Addie Browne, Marlboro—Liberation cutting (45 acres).

FOREST SURVEY

The work of completing the forest and type survey of the entire state was pushed forward during the past summer, with the result that Franklin County was completed and the western part of Hampden County was done. We find that the summer is the best time to do this work, as the working conditions are perfect and also the men who handle the field work are forestry students who are getting their field experience and are available at this time.

This department, with the first-hand knowledge of growing conditions, cutting conditions and marketing conditions, gained through these surveys, is better able to tell the individual how to handle his wood crop to get the most out of it. We can learn how to manage our own forests from data noted in the survey.

Examinations

We have continued the service of advising owners of woodlands or shade trees on the proper handling of these lands or trees, by an examination of the property itself. We consider this to be the most satisfactory method of teaching owners the proper care of their woodlands.

<i>Subject</i>	<i>Number</i>	<i>Acres</i>
Thinning and planting	6	4,100
Planting	20	2,460
Operating	6	440
Insects and diseases	14	260
Thinning	12	1,050

NURSERIES

58 8,310

During the year 1925 there were shipped from the state nurseries more than 4,000,000 trees. These were practically all transplants and were distributed as follows:

Sold	1,420,084
State Institutions	407,135
State Forests	1,597,100
State Reforestation Lots	262,000
Town Forests	321,100
Total	4,007,419

The total was made up of approximately 15 different species, but more than 80 per cent consisted of white pine, spruce, Scotch pine, Austrian pine and red pine. A large proportion of the Scotch and Austrian pine were set out on the dunes of the Province Lands at Provincetown.

We now have three main nurseries and eight reservation nurseries located as follows:—Main nurseries at Amherst, Bridgewater and Barnstable; reservation nurseries at Myles Standish Forest, Carver; Otter River Forest, Winchendon; Martha's Vineyard Forest, Martha's Vineyard; Erving Forest, Erving; Mohawk Trail Forest, Charlemont; Savoy Mountain Forest, Savoy; Arthur Warton Swann Forest, Monterey; October Mountain Forest, Lee.

A new main nursery will be partially completed next spring on the Clinton-West Boylston state road on lands of the Metropolitan Water Department. This de-

partment has kindly loaned 25 acres of land suitable for tree production and we believe that as soon as this nursery is operating efficiently it may be possible to produce enough trees to take care of the increased demands made on us by private land owners and newly established town forests.

Our fall inventory showed the total content of all nurseries to be in the vicinity of 18,000,000 trees. Of this number about 10,000,000 are seedlings and 8,000,000 are transplants. We estimate that 4,500,000 transplant stock will be large enough for spring field planting and over 5,000,000 seedlings will be transplanted in the nurseries.

STATE FORESTS

Owing to the reduction in our appropriations, the work of developing on state forests was seriously curtailed. Much of the land included in these forests is cut-over timberland or abandoned pasture land coming up to a mixed growth of both worthless and valuable species. Such stands need to be weeded by the removal of the poor kinds of trees which invariably overtop and kill out the worthwhile timber growth. In other cases where valuable species are wanting they are introduced by planting. In either case this sort of work can be done much more economically and successfully in the early life of the forest, and in fact, if neglected too long, the opportunity is lost for an entire forest generation.

Forest fires did comparatively little damage on state forests this past season. One fire burned 100 acres on the Erving forest and another burned 20 acres of ten-year-old pine plantation on the Ashburnham Forest.

Myles Standish Forest. A new forest road to Federal Pond was constructed and the fire lines around the reservation were plowed and harrowed. A small amount of improvement cutting was done on planted land near Barrett's Pond. In the spring 225,000 trees were set out. Several new private camps have been built at the various ponds, including a Girl Scout Camp at Barrett's Pond. The nursery was continued with the transplanting of 375,000 seedlings. Minor repairs were made in buildings, including a cement foundation for the pump house and a separate room made in the barn to hold all fire equipment. The reservation crew gave important help at a large fire which occurred near Ellisville.

Tolland-Granville Forest. Planted 39,000 trees in spring, one-half spruce and one-half Austrian pine, and brushed out about eight miles of forest roads. The Coe house received some repairs in order that it might be habitable by the superintendent. Four old barns not needed on the forest were burned or torn down. Five old wells were cleared and covered to serve as reservoirs in case of fire.

October Mountain Forest. About 250,000 spruce transplants were set out in the spring. Further improvements were made on the main road by the use of 100 loads of stone and cinders and two bridges were rebuilt and some of the forest roads mowed over. It was decided to abandon the old headquarters house for the winter and use instead the so-called Clark house nearer town and thus avoid the necessity of keeping open four miles of road all winter. For this reason some repairs were made on the Clark house and the garage. A start was made in thinning some of the more valuable hardwood growth.

Mount Grace Forest. The only work done here was the planting of 10,000 Scotch pines in the spring.

Wendell Forest. The small brush on six miles of forest road was cut and some of it burned. Sixty-nine thousand trees were planted during the spring.

Erving Forest. During the winter we thinned out several acres of mixed hardwoods pine and hemlock, selling the cordwood at a good price. During the spring 27,000 trees were set in the field and 128,000 seedlings put in the nursery. The road to Laurel Lake was made passable for automobiles by removal of rocks and placing of drains. Other forest roads were cleared of brush. A start was made towards making the "Kurtz" house habitable as a headquarters, but it was soon decided that the building was too far gone to repair and it was torn down.

Otter River Forest. During the winter the merchantable pine logs on the area burned over in the fire of 1924 were cut and sold to the New England Box Company. In the spring 53,000 trees were set on this burned area and 544,000 seedlings transplanted into the nursery. Twenty-three thousand more trees were set in the fall. Some forest roads and trails were cleared of brush and several wells and water

holes made for fire protection. The well at the headquarters house was declared unfit for drinking by the Board of Health, so a new one was dug.

Ashburnham Forest. Roadside brush has been cleared on about four miles. The plantation on the Atherton Lot was released by cutting out the grey birch. Some ten acres of pine and hemlock slash were piled and burned on the Cory Lot. Blister rust work was carried on on the Lawrence Lot and 45,000 *ribes* plants were pulled. A number of water holes were dug and fenced on the forest as a help in fire protection.

Swann Forest. Road work included grading with gravel and ditching over three-quarters of a mile; two and one-quarter miles of forest road were brushed and one and one-half miles of trail cleared. About 6,000 trees were planted in the field. The Lodge was shingled and some minor repairs made on other buildings. Some of the older plantations were given a release cutting and an attempt made to reduce the pine weevil infestation. The work of salvaging the dead chestnut was continued and 1,076 ties cut and removed. About all the merchantable chestnuts have now been taken out. A number of acres of young growth were improved by a weeding and older growth improved by thinning.

Beartown Forest. Work on this forest was confined to the planting of 71,000 Norway spruce and the clearing of one-half mile of boundary line.

Harold Parker Forest. A new fire line and road about one and one-half miles long was constructed from Rocky Hill to Converse Road and four miles of old fire lines renewed. About 16 acres of mixed softwood and hardwood growth were thinned by removal of the poorer hardwoods, producing 80 cords of wood. Some 25,000 Austrian pines were set on the Emerson Lot and some bad spots in the forest roads repaired. The County Blister Rust Agent, Mr. Root, gave us valuable assistance in eradicating the wild currants and gooseberries on this reservation and saving the valuable young pine growth of the forest from pine blister rust.

Savoy Forest. Seventy-five thousand trees, mostly spruce, were planted on this forest and 199,000 seedlings transplanted into the nursery. Five miles of forest roads were repaired and brush mowed on three miles. About 50 acres of young spruce, both natural and planted, were cleared by cutting out hardwoods, and a few acres of mixed growth thinned.

Mohawk Trail Forest. On this forest about five miles of forest roads were cleared of fallen trees, the result of the ice storm of 1921. A garage was built at the Botinelly place and the caretaker at the auto-camp grounds was permitted to build a wooden camp in place of the tent which he had been occupying. The caretaker reports that not as many automobile parties used the camp grounds as during 1924, but that on the whole they were a better class of people. It was found that in some sections of the forest the ice storm had so severely broken the tops of the hardwood growth, especially the white birch, that the trees were slowly dying so that in order to salvage this material this white birch growth, together with some ash, was sold to a local timber operator. Planting was carried on by the use of 100,000 four-year spruce.

Shawme Forest. (Cape Cod.) Extensive fire line work is being carried out on this forest by the construction of a line 50 feet to 100 feet wide plowed on the inside edge and with a road running down the middle. About one and one-half miles of such line was completed and one and one-half miles more nearly so. In addition, two miles of forest road were brushed and 172,000 trees, principally Austrian and Scotch pine, planted. A woodshed was built for the headquarters house.

Clarksburg Forest. The "Long Trail" of the Green Mountain Club reaches the Massachusetts line at a point on the north boundary of the Clarksburg Forest. The Appalachian Mountain Club was very anxious to connect the Green Mountain Trail with the Mount Greylock Reservation. To co-operate with the Appalachian Mountain Club the department cleared a trail from the Vermont line down to the village of Blackinton through the State Forest. The club is to complete the trail across the Hoosac Valley up to Mount Greylock where it will connect with one of the existing trails.

Sandisfield Forest. Work on this forest was confined to the planting of 70,000 trees on what is known as the Whiteneck Farm.

Worthington Forest. Work on this tract was confined to the planting of 32,000 spruce in the spring.

Windsor Forest. Planted 17,000 spruce during the spring.

Martha's Vineyard Forest. On this, one of the younger of our state forests 600,000 seedlings were transplanted into the nursery, a start made on the construction of fire lines and forest roads, and a small cabin made into a headquarter's house.

Colrain Forest. Some five miles of roads previously cleared were mowed over and an experiment tried in the pruning of the lower branches on two acres of the fourteen-year-old pine plantation.

AREA OF THE STATE FORESTS, NOVEMBER 30, 1925

<i>Name of Forest</i>	<i>Acreage</i>
Arthur Warton Swann	986.75
Ashburnham	958.075
Barre	233.5
Bash Bish	390.08
Beartown	7,399.93
Blandford	1,419.5
Brimfield	463.5
Clarksburg	1,764.
Colrain	1,206.194
Conway	1,286.12
Erving	4,431.565
Harold Parker	1,327.6
Hawley	1,523.
Hubbardston	724.37
Leominster	637.7
Martha's Vineyard	1,640.47
Mohawk Trail	5,251.1
Monroe	2,481.57
Mount Grace	1,065.825
Myles Standish	8,869.
Northfield	235.4875
Oakham	504.05
October Mountain	13,363.8
Otis	2,772.81
Otter River	1,812.46
Oxford	28.7
Peru	1,060.
Petersham	248.15
Pittsfield	1,082.54
Sandisfield	2,994.75
Savoy Mountain	6,916.98
Shawme	8,372.01
Shutesbury	579.36
Spencer	274.
Sutton	209.5615
Templeton	86.76
Tolland-Granville	4,577.
Warwick	904.7
Wendell	4,168.47
Westminster	250.95
Windsor	1,417.05
Worthington	225.
Unassigned lots	1,239.325

*97,383.763

REPORT OF THE STATE FIRE WARDEN

MR. WILLIAM A. L. BAZELEY, *State Forester.*

SIR:—In compliance with the provisions of section 28, chapter 48 of the General

* This figure includes lands purchased by the State Forest Commission, lands acquired under the Re-forestation Act, and takings on Myles Standish, Martha's Vineyard and Shawme forests. Much of this land acquired by takings and not already paid for will be paid for later as the owners can be located.

Laws, I submit herewith a report of the work accomplished by this branch of the division during the year just ended.

With the exception of the drought during the spring months we have had a very favorable fire season, although we had more high winds during the spring drought than we have experienced in many years. This, with the increased number of fires, made the extinguishment extremely difficult. We have endeavored this year to eliminate second-day fires and, with few exceptions, have been successful. This, of course, was partially made possible by the installation of power equipment, and it is pleasing to note that many towns and cities see the advantage of having equipment adaptable to the extinguishment of forest fires, and are purchasing trucks that can be driven through wood roads. These trucks are especially equipped and have shown their value by making it possible to reach a fire promptly and extinguish it in the incipient stage.

In our endeavor to educate the public respecting the danger of forest fires, we have distributed several thousand cloth signs which have been posted in conspicuous places along roadsides, rivers and trails and in public places such as post offices and railroad stations.

A new 68-foot forest fire observation tower was erected in the town of Oxford at a cost of nearly \$2,000. This tower covers a very inflammable and dangerous area and will be one of the most important stations in the state. The towns of Douglass, Millbury, Northbridge, Oxford, Sutton and Webster each contributed \$200 towards the purchase of this tower.

Several of our towers were repainted and minor repairs were made. Telephone lines leading to them were brushed out and new lines installed where it was necessary. Roads and trails leading to the stations were kept in condition so that visitors could have easy access. Over 30,000 people visited our various stations this past year, coming from every state in the Union as well as several foreign countries.

I am in hopes that we may be able to erect a large tower in the town of Holbrook this year, as it is needed to better protect the vast forested area in that vicinity. Several of the towns that will receive protection have signified their desire to contribute very liberally.

Co-operative work between the Federal Government and this department was continued under the Weeks Law up to July 1, 1925, and under the new Clarke-McNary Law since that time. The state allotment under this agreement has been increased from \$8,400 to \$12,600. Mr. J. G. Peters of Washington, chief of the state co-operative work, spent a week inspecting the work carried on in Massachusetts, and expressed himself as well pleased with the work that has been accomplished.

It is unfortunate that the forest fire bill which was approved by both branches of the legislature last winter did not become a law. This department will never be able to handle the fire situation with any degree of satisfaction until it has control of the entire working force and the smaller towns are relieved of a portion of the expense of extinguishing fires. As long as we only have authority to aid and advise local wardens and cannot issue definite instructions and insist that they be carried out, just so long shall we continue to have unchecked and damaging fires.

John P. Crowe, who has been associated with this department for the past fourteen years in charge of district number five, has, in addition to this, devoted a great deal of time to construction work. He has been relieved of the work in his district and will devote his entire time to construction work, having charge of construction and field work in central and eastern Massachusetts.

Charles L. Woodman will succeed Mr. Crowe in district number five. He has been connected with the department for some years in the surveying work, and, I feel, will make an excellent man for the place.

The appropriation received for forest fires was not sufficient for carrying on the work. Owing to the early fire season, towers were opened from three to four weeks in advance of previous years. This necessitated the closing of all towers during the month of July, excepting on Saturdays and Sundays, and the early closing of them in the fall. If we had experienced a drought during the fall we should have been without funds and the towers could not have been kept open.

Power gasoline pumps proved their value in the extinguishing of forest fires during the past season. I believe that when our appropriation admits of the

purchase of more of them and the means of transporting them, we shall see a decided improvement in our fire losses.

The new fire pump manufactured by the Fitzhenry-Guption Company of Cambridge has proved to be very satisfactory. While it is somewhat heavier than other makes of fire pumps, this is a small matter compared to its efficiency and durability. It has two distinct advantages over other pumps; first, it is a plunger pump and not affected by sand and, second, it uses one-inch hose instead of inch and a half as on other pumps. These items are very important in our work.

We have at the present time fourteen power pumps distributed throughout the state. The majority of these are on our state reservations but are available for use outside when weather conditions permit.

The department continued its policy of holding forest fire meetings throughout the state during the winter. Nine meetings were held and were attended by forest wardens, fire chiefs, selectmen, State Police, department representatives, railroad officials, representatives from adjoining states and the Federal Government. These meetings have always been very instructive and interesting and have done a great deal toward building up a better fire-fighting body of men. I doubt very much our being able to continue these meetings this winter owing to insufficient funds.

We are having very few fires reported from the use of portable saw mills. This, I believe, is due to the fact that the majority are operated by gasoline engines. We are having very satisfactory results from the operators in complying with the so-called slash law. While it is necessary that our men inspect the various operations, there is a general spirit of co-operation that is very gratifying.

The results accomplished from the operation of the permit law are very unsatisfactory. Many of our wardens fail to grasp the importance of properly enforcing this law. In too many cases permits are issued without the warden's knowledge of the type of land to be burned and also whether sufficient help is at hand to control the fire. These facts are borne out by our records, which show that over 500 brush fires for which permits were issued went beyond control and burned over large areas. The practice of burning during the spring months, the most dangerous time of the year for fires, is unfortunate. Over 30,000 permits are issued each year during this period, and unless more precaution is taken in their issuance, it will be necessary to confine all permits to rainy weather. We have had 150 violations of the permit law, and of this number thirty-seven cases were taken into court and fined and 113 paid the expense of extinguishing the fires.

The portion of the law that applies to the disposal of brush along the highways has been difficult to enforce. Many tree wardens expend their town appropriation in the cutting of brush along the roadside but make no provision for removing it. If the brush is not to be removed it would be much better not to cut it as far as fire protection is concerned.

Several miles of power lines have been inspected during the fall and reports to date indicate a general compliance with the slash law. These lines when properly cleaned make excellent fire lines.

Many people have wondered if allowing campers on the state forest would not increase the fire hazard. For the past five years we have been leasing camp sites and allowing camping on the Myles Standish Forest and up to the present time no fires have been reported from this source. Campers are obliged to pile all brush cut and our men do all the burning. At College Pond the campers have purchased and equipped a truck and it is available for use not only at College Pond but at any of the ponds on the forest.

The railroad fire situation remains as in former years, about twenty per cent of our fires being attributable to this cause. The acreage burned and damaged is a little in excess of last year. I believe that the neglecting of rights of way is responsible more than any other one cause. In order to prevent railroad fires, the mechanical construction of each locomotive must be kept in perfect condition, and all grass and debris removed from the right of way at least twice a year. Then we should practically eliminate railroad fires.

I desire to express my appreciation for the excellent work done by the South Shore and Barnstable County forestry organizations. They are made up of men directly interested in forest fire problems, each organization having over 150 mem-

ers. By their efforts they have created a spirit of co-operation that could not have been attained in any other manner.

The following tables show comparative damages, costs, etc., for the past three years.

Respectfully submitted,

MAXWELL C. HUTCHINS, *State Fire Warden.*

COMPARATIVE DAMAGES BY FOREST FIRES FOR THE PAST THREE YEARS

Year	Number of Fires	Acreage burned	Cost to extinguish	Damage	Average Acreage per Fire	Average Damage per Fire
1923 . .	2,672	48,602	\$51,448	\$161,043	18.18	\$60 27
1924 . .	3,735	47,522	85,477	189,018	12.72	50 61
1925 . .	3,310	43,876	66,855	194,741	13.25	58 83

TYPES OF CLASSIFIED DAMAGES

	1924	1925
standing trees	\$111,712 00	\$108,894 00
logs, lumber, cordwood	43,191 00	32,627 00
buildings	15,813 00	33,260 00
bridges, fences	1,937 00	1,768 00
proutland	16,235 00	18,135 00
Miscellaneous	130 00	57 00
Totals	\$189,018 00	\$194,741 00

TYPES OF LAND BURNED OVER (ACRES)

	1924	1925
timber	3,571	2,490
second growth	9,450	7,827
second growth, not merchantable	12,522	10,837
brush land	16,144	17,181
grass land	5,835	5,541
Totals	47,522	43,876

FOREST FIRES OF 1925

Months	Number	Acres	Cost to Extinguish	Damage
1924				
December	66	187	\$424 00	\$485 00
1925				
January	35	73	156 00	38 00
February	136	329	926 00	411 00
March	683	4,521	6,633 00	10,727 00
April	1,382	23,531	28,694 00	105,054 00
May	451	12,408	16,500 00	56,660 00
June	104	254	1,268 00	4,575 00
July	65	203	567 00	2,320 00
August	108	1,152	8,012 00	9,979 00
September	76	400	1,946 00	1,060 00
October	81	370	845 00	1,754 00
November	123	448	884 00	1,678 00
Totals	3,310	43,876	\$66,855 00	\$194,741 00

CLASSIFIED CAUSES OF FOREST FIRES, 1924-1925

	1924		1925	
	Number	Percent	Number	Percent
Railroad	997	26.69	673	20.33
Lumbering	4	.10	5	.15
Brush burning	441	11.81	537	16.22
Campers	17	.46	15	.45
Incendiary	86	2.30	80	2.42
Miscellaneous	1,306	34.97	1,170	35.35
Unknown	884	23.67	830	25.08
Totals	3,735	100.00	3,310	100.00

RAILROAD FIRES OF 1925

Railroad	Mileage	Number of Locomotives	Number of Fires	Acreage burned	Cost to extinguish	Damage
New York, New Haven & Hartford	1,883	922	495	3,621	\$5,763	\$12,465
Boston & Albany . .	979	354	76	1,134	1,120	3,466
Boston & Maine . . .	2,017	1,025	89	1,073	2,262	18,445
Central Vermont . .	71	23	10	100	146	294
H. T. and W.	8	7	3	79	29	53
Totals	4,958	2,331	673	6,007	\$9,320	\$34,723

REPORT OF THE SUPERINTENDENT OF MOTH WORK

Hon. WM. A. L. BAZELEY, *Commissioner*.

SIR:—I have the honor to present a report of the gypsy and brown-tail moth work for the year 1925, to report on general conditions and to make suggestions for the future. I regret that I cannot make as encouraging a report as that of last year, for while in some parts of the state the gypsy moth is present in such small numbers as to be negligible, in other parts of the state the gypsy moth has increased from 25 per cent to 100 per cent in numbers, owing to apathetic attitude on the part of the local authorities, and reduced appropriations. Unfortunately, the Governor's reference to the gypsy moth in his inaugural address was misinterpreted and quite generally towns failed to appropriate money for the necessary work. This made it necessary in many cases to call upon that section of the law which enables us to use the Governor's warrant in forcing towns to expend funds for the suppression of the gypsy moth.

The worst section in the state was on Cape Cod, where about 40,000 acres of woodland were defoliated, or partially stripped, but all the towns in the infested district with the exception of Winchendon, Ashburnham and Westminster, show an increase in the infestation.

This was only to be expected, as such conditions have always followed a partial cessation of the work. We warned that these results might be expected if work was neglected. If thorough work is not done north of Boston, just such conditions will arise there as we now have on Cape Cod.

Bad stripping of trees occurred in the following towns: Falmouth, Mashpee, Yarmouth, Dennis, Brewster, Harwich and Chatham.

I cannot urge too strongly that the authorities in towns and cities have these serious conditions brought to their notice. I recommend that a campaign of information be carried on that no town or city may fall back upon a plea of ignorance of conditions, should more serious infestations arise in the future.

Contrary to the general idea, the brown-tail moth is still present, but it is only in a few towns that an increase showed this year. These towns are Clinton, Fitchburg, Groton, Lunenburg, West Boylston, Worcester, Wakefield and the Plum Island section in Essex County.

I have received a report from each of the division superintendents giving in detail the conditions in their towns, and my statements are fully confirmed by the reports.

Little help was received from the parasites this last year, the diminution in the number of gypsy moths for two years previous having depleted the ranks of the parasites very noticeably. This is in accordance with the natural law which these creatures follow. A lessening in the number of hosts always causes a corresponding lessening in the number of parasites. For details, I refer you to the report of A. F. Burgess of the United States Department of Agriculture, which is incorporated in this report later.

The co-operative work on the North Shore has proceeded as usual this year, Beverly and Manchester co-operating with Col. Sohier's committee in furnishing part of the money for the work. There is a slight increase in the gypsy moth infestation in the woodland this year. We give herewith a financial statement of the North Shore Fund.

FINANCIAL STATEMENT
SPECIAL NORTH SHORE FUND

<i>Receipts</i>			
Balance from 1924	\$829	35	
State Forester	2,000	00	
Wm. D. Sohier, Agent	2,000	00	
City of Beverly	1,000	00	
Town of Manchester	1,000	00	
State Forester (for work done)	165	37	\$6,994 72
<hr/>			
<i>Expenditures</i>			
Pay roll	\$3,929	87	
Travel	48	20	
Stationery and postage	2	59	
Telephone	59	58	
Supplies	1,150	03	
Sundries	9	01	
Rent	650	00	5,849 28
<hr/>			
Balance, November 30, 1925			\$1,145 44

Though we are not charged in any way with the suppression of any insects but the gypsy moth and the brown-tail moth, I wish to call your attention to the increase in the numbers of the elm-leaf beetle this last season. It is now very prevalent again, especially in the Cape Cod district. In most of these towns the spraying of the state highways, which was done by this department for the Highway Division, was sufficient to take care of both the gypsy moth and the elm-leaf beetle.

The satin moth, a recent importation to this country, is spreading very rapidly. The only two trees which they are known to attack are the willow and the poplar, but in some towns these trees were entirely stripped.

The orchard tent caterpillar and the fall web worm which are often mistaken for the gypsy moth or the brown-tail moth, were prevalent this year, the latter being particularly abundant.

The report of the United States Department of Agriculture, which is charged with the work of propagating and disseminating parasites, and with the work of preventing the spread of the gypsy moth all over New England, follows.

Respectfully submitted,
GEORGE A. SMITH, *Superintendent of Moth Work.*

FEDERAL GIPSY MOTH WORK IN MASSACHUSETTS

BY A. F. BURGESS

Careful scouting and clean-up work in Berkshire County, which comprises that portion of the barrier zone which lies in Massachusetts, has been carried on during the past year by the United States Bureau of Entomology. Conditions in this county have improved and a material decrease in infestation has resulted from the clean-up and spraying work of the previous year. Fewer infestations were found in the spring of 1925, and these were thoroughly treated and spraying applied during the summer.

The inspection of products likely to carry the gypsy moth has been continued, and the amount of material shipped outside the area quarantined for the gypsy moth has increased slightly during the year. The volume of Christmas trees and greens, including evergreen boughs, laurel, etc., cut for holiday and other decorations, is much greater than during any previous year, and the amount of inspection work required to safeguard this material, which is being shipped to points outside New England, increased considerably.

During the summer of 1925, three assistants from the gypsy moth laboratory were employed in Europe to secure and ship parasites to this country. Messrs. R. T. Webber and P. B. Dowden worked in Hungary, Czechoslovakia and Poland, while Mr. S. M. Dohanian carried on similar work in Spain and Portugal. During the early summer, Mr. T. H. Jones made a special trip to Europe to receive shipments that were assembled and bring them to this country. This was necessary because the parasites involved in these shipments required feeding and special attention en route and would have perished had they been shipped in the ordinary way. The result of the year's work in foreign countries has been satisfactory, and most of the importations have arrived in this country in good condition. There are, however, a number of species of gypsy moth parasites that are extremely difficult to ship or colonize until more information can be secured concerning their life histories and habits. Work along these lines will be attempted during the coming year.

The work of collecting data on selected areas to determine the effect of defoliation on different species of trees has been continued. This project has been under way for more than ten years and the longer it is carried on the more valuable will be the information that is secured. In connection with this project, the large sample plots selected to test the ability of different forest stands to survive defoliation have been continued and the necessary data secured.

Last year it was realized that the rate of parasitism had decreased slightly when compared with the previous year, and the statement was made that if this decrease continued, serious outbreaks of the insect might result. During the past summer heavy defoliation has occurred on Cape Cod, where thousands of acres of trees have been completely denuded. In other sections of the state, the infestation, based on the number of egg clusters found in the fall, has increased sharply and there has been a decided falling off in parasitism. The situation at present is critical and it is impossible to predict whether the gypsy moth will increase and heavy damage result, or whether parasites will become more abundant and bring about a reduction in infestation. It is impossible to predict just what will happen, but every effort should be made to prevent further increase of the insect.

Data secured last year indicated that the parasitism of the brown-tail moth had been reduced, somewhat. Although full information is not at hand at the present time, the reports thus far received indicate that the insect is more abundant this year than during the previous year, and unless effective control measures are employed, some defoliation is likely to result during the coming year.

APPENDIX

FINANCIAL STATEMENT

Receipts and Expenditures for Year ending November 30, 1925

Purpose of Appropriation	Amount	Refunds and Balances	Expendi- tures	Balance to 1926	Balance to Treasury
Salary of Commissioner	\$6,000	—	\$6,000 00	—	—
Personal Service	11,000	—	10,297 13	—	\$702 87
Expenses of Commissioner	250	—	100 59	—	149 41
Office Incidentals	5,100	\$102 74	3,503 02	—	1,699 72
General Forestry and Nurseries . .	13,000	—	10,128 91	—	2,871 09
Purchase and Planting of Forest Lands .	10,000	—	8,313 52	—	1,686 48
Prevention of Firest Fires	57,000	—	56,999 98	—	2
Federal Forestry Fund	—	10,242 76	8,561 08	\$1,681 68	—
Protection against Forest Fires . .	1,000	1,081 80	2,075 56	—	6 24
Reimbursement for Fighting Fires .	2,000	—	453 75	—	1,546 25
Suppression of Gypsy and Brown-tail Moths	60,000	48,413 32	84,990 06	23,423 26	—
Maintenance of State Forests . . .	25,000	19 43	25,014 12	—	5 31
Purchase and Development of State Forests	150,000	973 20	144,268 97	6,704 23	—
Maintenance of Mount Grace	1,000	—	982 22	—	17 78
Maintenance of Standish Monument .	2,000	—	1,987 30	—	12 70
Repair of Standish Monument . . .	8,000	2,500 00	3,560 66	6,939 34	—
	\$351,350	\$63,333 25	\$367,236 87	\$38,748 51	\$8,697 87

Receipts

For ferns sold	\$500 00
For sand sold	21 00
For lumber sold	2,017 06
For Christmas trees	155 70
For cordwood sold	1,102 35
For sale and rent of buildings . . .	288 67
For hay, fruit, etc.	732 00
For rent of camp sites	884 00
For trees sold	13,201 12
For books, cards, maps, etc.	22 20
For redemption of lots	550 37
For sale of products from reforestation lots	205 00
For examinations	91 25
For supplies for gypsy moth work . .	21,764 32
For donations to North Shore Fund .	4,000 00
For highway work	38 25
For sale of discarded equipment . . .	350 00
For supplies for fire fighting	2,709 03
For donations to cost of fire towers .	1,400 00
For admissions to Standish Monument	951 60
For interest on bank deposit	116 08
	\$51,100 00

STATEMENT OF EXPENDITURES AND RECEIPTS ON STATE FORESTS FOR THE YEAR
ENDING NOVEMBER 30, 1925

State Forest	Planting and Nurseries	General Upkeep, Fire lines, Roads	Surveying, Titles, etc.	Land	Total	Receipts
Arthur Warton Swann .	\$367 06	\$906 03	\$59 48	-	\$1,332 57	\$401 40
Ashburnham .	145 51	2,998 99	5 00	-	3,152 50	42 00
Barre .	-	-	3 15	\$1,167 50	1,170 65	-
Bash Bish .	-	-	-	-	-	-
Beartown .	552 39	2 63	288 00	2,625 95	3,468 97	30 00
Blandford .	-	-	2,001 85	-	2,001 85	-
Brimfield .	-	-	-	2,000 00	2,000 00	-
Clarksburg .	-	63 00	14 03	2,001 89	2,078 92	-
Colrain .	-	152 00	31 03	84 00	267 03	10 00
Conway .	-	-	35 00	130 00	165 00	-
Erving .	1,440 65	1,852 38	1,157 36	457 50	4,907 89	237 25
Harold Parker .	221 82	2,573 55	-	-	3,095 37	566 10
Hawley .	-	-	794 70	-	794 70	21 00
Hubbardston .	-	-	5 69	144 35	150 04	-
Leominster .	-	-	-	-	-	-
Martha's Vineyard .	1,470 66	846 82	1,913 81	82 50	4,313 79	-
Mohawk Trail .	618 00	1,521 51	116 15	-	2,255 66	705 14
Monroe .	-	-	741 59	1,403 00	2,144 59	25 00
Mount Grace .	135 55	895 17	-	-	1,030 72	150 00
Myler Standish .	2,364 78	6,023 25	7 94	213 63	8,609 60	949 00
Northfield .	-	-	250 29	-	250 29	-
Oakham .	-	-	1 39	378 00	379 39	7 00
October Mountain .	3,106 43	7,311 81	65 75	225 00	10,708 99	335 67
Otis .	-	-	334 98	5,293 60	5,628 58	-
Otter River .	3,332 54	4,089 74	2 20	225 00	7,649 48	604 50
Oxford .	-	-	1 04	143 50	144 54	-
Peru .	-	-	961 54	-	961 54	-
Petersham .	-	41 25	-	-	41 25	-
Pittsfield .	-	-	-	-	-	-
Sandisfield .	671 65	55 93	480 50	3,396 25	4,604 33	105 00
Savoy Mountain .	2,575 96	1,469 79	475 05	-	4,520 80	1,109 97
Shawnee .	1,796 06	5,858 40	81 06	6,011 22	13,746 74	96 75
Shutesbury .	-	-	379 31	456 71	866 02	-
Spencer .	32 25	261 00	-	-	293 25	-
Sutton .	-	-	183 75	-	183 75	-
Templeton .	-	-	-	-	-	-
Tolland-Granville .	318 33	2,676 58	174 37	4,900 00	8,069 28	200 00
Warwick .	-	-	366 24	1,823 00	2,189 24	-
Wendell .	752 51	525 25	166 88	1,582 00	3,026 64	-
Westminster .	-	-	-	-	-	-
Windsor .	102 00	-	-	3,942 00	4,044 00	105 00
Worthington .	310 65	-	214 01	-	524 66	-
Unassigned .	-	-	-	730 00	730 00	-
Totals .	\$20,317 80	\$40,425 08	\$11,313 14	\$39,446 60	\$111,502 62	\$5,700 78

THE DISTRIBUTION OF SUPPLIES

Supplies have been furnished to towns and cities for gypsy moth work as usual. The amounts given below do not correspond with the amount of aid given to the municipalities, as some towns make payment to the state for all or a part of the bill for supplies, according to the amount of their net expenditure and their class, under the provisions of section 4, chapter 132 of the General Laws.

For amounts received from this office in reimbursement and for expenditures, see table on page 23.

LIST OF TOWNS AND AMOUNTS OF SUPPLIES FURNISHED FOR 1925

Acton .	\$12 13	Brewster .	\$380 27
Ashburnham .	221 34	Burlington .	378 72
Ashby .	335 29	Carlisle .	288 10
Ashland .	2 10	Dennis .	309 13
Bedford .	382 78	Dracut .	565 21
Berkley .	251 44	Dunstable .	144 56
Berlin .	231 00	Duxbury .	60 69
Bolton .	353 21	Eastham .	328 05
Boxborough .	334 89	Essex .	221 07
Boxford .	1,099 31	Freetown .	382 85
Boylston .	122 21	Georgetown .	1,387 43

P.D. 73				23
Groveland	\$202	18	Plympton	\$283 63
Halifax	527	06	Princeton	276 27
Hanover	282	06	Raynham	258 74
Hanson	423	85	Rochester	142 33
Harvard	529	98	Rowley	1,546 04
Harwich	575	27	Salisbury	1,233 98
Holbrook	261	74	Sandwich	408 10
Holden	142	87	Sherborn	386 74
Hopkinton	318	76	Shirley	1 80
Hubbardston	1	81	Sterling	212 89
Kingston	41	99	Stow	1,598 41
Lakeville	380	73	Sturbridge	1 81
Littleton	832	88	Sudbury	367 41
Lunenburg	516	78	Tewksbury	527 07
Lynnfield	523	08	Townsend	339 21
Mashpee	586	51	Truro	38 50
Merrimac	85	08	Tyngsborough	69 18
Middleton	201	35	Wayland	1 95
Newbury	514	54	Wellfleet	187 70
Norfolk	188	11	West Boylston	278 14
North Reading	20	19	West Bridgewater	661 28
Norwell	448	27	West Newbury	1,401 91
Orleans	400	37	Westminster	105 77
Pembroke	1,688	20	Wilmington	679 42
Pepperell	16	65	Yarmouth	453 42
Plainville	218	28		
				\$29,182 07

Automobile supplies	\$1,293 57
General Forestry and Nurseries	202 55
Maintenance of State Forests	361 81
Special North Shore Fund	677 90
Prevention of Forest Fires	1,261 78
Purchase and Development of State Forests	782 05
Purchase and Planting of Forest Lands	12 16
Storehouse Equipment	15 38
Traveling Sprayers and Highways	83 81
	\$4,691 01

TABLE SHOWING EXPENDITURES AND REIMBURSEMENTS OF TOWNS AND CITIES
FOR THE YEAR 1925

Cities and Towns	1925						1926
	Required Expendi- tures	Total Net Expendi- tures	Private Work	Reimburse- ment	Tools supplied	Total Amount received from State	Required Expendi- tures
Abington	\$2,325 08	—	—	—	—	—	\$2,681 55
Acton	1,088 65	—	—	—	—	—	1,269 39
Acushnet	1,417 76	—	—	—	\$12 13	—	1,849 38
Adams	5,000 00	—	—	—	—	—	5,000 00
Agawam	2,363 96	—	—	—	—	—	3,421 15
Alford	110 60	—	—	—	—	—	138 59
Amesbury	4,729 57	—	—	—	—	—	5,000 00
Amherst	3,256 24	—	—	—	—	—	4,262 74
Andover	5,000 00	—	—	—	—	—	5,000 00
Arlington	5,000 00	—	—	—	—	—	5,000 00
Ashburnham	722 80	\$804 18	\$56 25	\$81 38	221 34	\$302 72	842 92
Ashby	497 26	724 80	*280 88	227 54	335 29	562 83	556 30
Ashfield	458 71	—	—	—	—	—	583 00
Ashland	939 80	—	—	—	2 10	—	1,274 59
Athol	4,762 04	—	—	—	—	—	5,000 00

* Lead sold.

Cities and Towns	1925						1926
	Required Expenditures	Total Net Expenditures	Private Work	Reimbursement	Tools supplied	Total Amount received from State	Required Expenditures
Attleboro . . .	\$5,000 00	-	-	-	-	-	\$5,000 00
Auburn . . .	1,137 48	-	-	-	-	-	1,942 35
Avon . . .	617 94	-	-	-	-	-	1,039 48
Ayer . . .	1,347 47	-	-	-	-	-	1,570 76
Barnstable . . .	4,409 96	-	-	-	-	-	5,000 00
Barre . . .	1,652 06	-	-	-	-	-	2,438 27
Becket . . .	415 93	-	-	-	-	-	448 73
Bedford . . .	1,033 98	\$999 59	\$879 28 *74 70	-	\$382 78	\$348 39	1,249 82
Belchertown . . .	533 00	-	-	-	-	-	884 87
Bellingham . . .	703 56	-	-	-	-	-	1,065 49
Belmont . . .	5,000 00	-	-	-	-	-	5,000 00
Berkley . . .	302 91	382 49	108 00	\$79 58	251 44	331 02	397 43
Berlin . . .	374 13	474 13	59 20 *68 00	100 00	231 00	331 00	431 37
Bernardston . . .	320 18	-	-	-	-	-	405 66
Beverly . . .	5,000 00	-	-	-	-	-	5,000 00
Billerica . . .	3,258 25	-	-	-	-	-	4,083 21
Blackstone . . .	909 32	-	-	-	-	-	1,270 90
Blandford . . .	404 68	-	-	-	-	-	520 09
Bolton . . .	412 60	434 71	11 50 *127 60	22 11	353 21	375 32	418 54
Boston . . .	5,000 00	-	-	-	-	-	5,000 00
Bourne . . .	2,660 78	-	-	-	-	-	3,900 66
Boxborough . . .	145 16	-	-	-	334 89	-	145 00
Boxford . . .	461 11	431 37	112 33 197 31	-	1,099 31	1,069 57	458 91
Boylston . . .	292 15	122 14	*43 35	-	122 21	-	341 05
Braintree . . .	5,000 00	-	-	-	-	-	5,000 00
Brewster . . .	478 20	739 87	441 36 *19 52	261 67	380 27	641 94	655 35
Bridgewater . . .	2,331 21	-	-	-	-	-	3,186 79
Brimfield . . .	459 91	-	-	-	-	-	606 48
Brockton . . .	5,000 00	-	-	-	-	-	5,000 00
Brookfield . . .	521 70	255 29	44 15	-	-	-	693 70
Brookline . . .	5,000 00	-	-	-	-	-	5,000 00
Buckland . . .	1,078 41	-	-	-	-	-	1,333 28
Burlington . . .	614 51	198 15	204 25	-	378 72	-	754 54
Cambridge . . .	5,000 00	-	-	-	-	-	5,000 00
Canton . . .	3,288 10	-	-	-	-	-	3,941 46
Carlisle . . .	253 49	253 49	269 71 *57 00	-	288 10	288 10	270 00
Carver . . .	935 98	-	-	-	-	-	1,291 63
Charlemont . . .	374 68	-	-	-	-	-	476 76
Charlton . . .	826 29	-	-	-	-	-	1,012 88
Chatham . . .	1,350 40	-	-	-	-	-	1,865 34
Chelmsford . . .	2,857 90	-	-	-	-	-	4,394 04
Chelsea . . .	5,000 00	-	-	-	-	-	5,000 00
Cheshire . . .	509 13	-	-	-	-	-	677 02
Chester . . .	508 08	-	-	-	-	-	695 59
Chesterfield . . .	195 48	194 25	-	-	-	-	231 79
Chicopee . . .	5,000 00	-	-	-	-	-	5,000 00
Chilmark . . .	192 34	-	-	-	-	-	210 37
Clarksburg . . .	361 75	-	-	-	-	-	587 44
Clinton . . .	5,000 00	-	-	-	-	-	5,000 00
Cohasset . . .	2,903 15	-	-	-	-	-	3,835 91
Colrain . . .	710 74	-	-	-	-	-	999 85
Concord . . .	3,239 50	-	-	-	-	-	3,783 74
Conway . . .	437 26	-	-	-	-	-	448 08
Cummington . . .	194 10	-	-	-	-	-	243 34
Dalton . . .	2,381 29	-	-	-	-	-	3,387 57
Dana . . .	264 59	163 92	37 08	-	-	-	361 68
Danvers . . .	4,056 57	-	-	-	-	-	5,000 00
Dartmouth . . .	3,465 13	-	-	-	-	-	4,856 57
Dedham . . .	5,000 00	-	-	-	-	-	5,000 00
Deerfield . . .	1,945 26	-	-	-	-	-	2,267 38
Dennis . . .	712 60	940 25	480 10 *73 60	227 65	309 13	536 78	890 44
Dighton . . .	1,485 43	-	-	-	-	-	1,959 46
Douglas . . .	852 51	-	-	-	-	-	997 02
Dover . . .	1,367 51	-	-	-	-	-	1,491 97
Dracut . . .	1,539 22	1,917 43	700 00	378 21	565 21	943 42	2,427 04
Dudley . . .	1,728 31	-	-	-	-	-	2,827 39
Dunstable . . .	280 85	377 31	140 10 *103 95	96 46	144 56	241 02	279 94
Duxbury . . .	1,767 68	-	-	-	60 69	-	2,202 50
East Bridgewater . . .	1,891 67	-	-	-	-	-	2,227 03
East Brookfield . . .	364 50	-	-	-	-	-	503 08

* Lead sold.

Cities and Towns	1925						1926
	Required Expenditures	Total Net Expenditures	Private Work	Reimbursement	Tools supplied	Total Amount received from State	Required Expenditures
East Longmeadow	\$891 40	-	-	-	-	-	\$1,427 42
Eastham	281 24	\$343 05	\$269 00	\$61 81	\$328 05	\$389 86	376 42
Easthampton	5,000 00	-	-	-	-	-	5,000 00
Easton	2,395 90	-	-	-	-	-	3,056 34
Edgartown	793 36	-	-	-	-	-	1,223 10
Egremont	386 10	-	-	-	-	-	391 66
Enfield	337 34	-	-	-	-	-	347 74
Erving	946 93	-	-	-	-	-	1,689 07
Essex	622 21	361 19	731 00	-	221 07	-	632 14
Everett	5,000 00	-	-	-	-	-	5,000 00
Fairhaven	3,683 45	-	-	-	-	-	5,000 00
Fall River	5,000 00	-	-	-	-	-	5,000 00
Falmouth	4,684 60	-	-	-	-	-	5,000 00
Fitchburg	5,000 00	-	-	-	-	-	5,000 00
Florida	595 13	-	-	-	-	-	669 98
Foxborough	1,515 62	-	-	-	-	-	2,002 80
Framingham	5,000 00	-	-	-	-	-	5,000 00
Franklin	3,037 42	-	-	-	-	-	4,184 79
Freetown	648 38	742 39	293 00	94 01	382 85	476 86	902 21
Gardner	5,000 00	-	-	-	-	-	5,000 00
Gay Head	28 57	-	-	-	-	-	40 30
Georgetown	639 00	689 91	570 30 *9 00	50 91	1,387 43	1,438 34	873 57
Gill	321 24	-	-	-	-	-	403 92
Gloucester	5,000 00	-	-	-	-	-	5,000 00
Goshen	144 79	-	-	-	-	-	169 27
Gosnold	421 63	-	-	-	-	-	513 31
Grafton	2,635 47	-	-	-	-	-	3,208 53
Granby	466 38	-	-	-	-	-	486 00
Granville	304 31	311 75	47 25	-	-	-	339 73
Great Barrington	4,307 32	-	-	-	-	-	5,000 00
Greenfield	5,000 00	-	-	-	-	-	5,000 00
Greenwich	241 40	-	-	-	-	-	281 82
Groton	1,441 03	-	-	-	-	-	1,779 15
Groveland	685 05	674 81	296 20 *42 45	-	202 18	191 94	798 44
Hadley	1,272 33	-	-	-	-	-	1,737 89
Halifax	388 14	441 62	719 75 *24 88	53 48	527 06	580 54	586 85
Hamilton	2,007 19	-	-	-	-	-	2,183 02
Hampden	221 79	-	-	-	-	-	272 13
Hancock	192 99	-	-	-	-	-	276 08
Hanover	1,089 89	1,282 56	311 95	-	282 06	282 06	1,467 79
Hanson	905 13	863 87	479 88	-	423 85	382 59	1,116 18
Hardwick	1,496 87	-	-	-	-	-	2,351 58
Harvard	867 47	892 78	18 80 *228 83	-	529 98	529 98	927 84
Harwich	1,034 01	1,327 38	1,106 25	293 37	575 27	868 64	1,400 07
Hatfield	1,230 41	-	-	-	-	-	1,858 07
Haverhill	5,000 00	-	-	-	-	-	5,000 00
Hawley	124 53	-	-	-	-	-	124 31
Heath	181 25	-	-	-	-	-	201 05
Hingham	3,914 81	-	-	-	-	-	5,000 00
Hinsdale	385 98	-	-	-	-	-	458 38
Holbrook	1,013 63	1,014 65	375 00	-	261 74	261 74	1,436 43
Holden	1,163 84	-	-	-	142 87	-	1,356 24
Holland	82 38	41 75	33 25	-	-	-	108 37
Holliston	1,162 28	-	-	-	-	-	1,578 96
Holyoke	5,000 00	-	-	-	-	-	5,000 00
Hopedale	3,349 33	-	-	-	-	-	3,552 96
Hopkinton	903 27	363 82	211 00 *102 48	-	318 76	-	1,205 67
Hubbardston	451 04	599 51	54 40	148 47	1 81	150 28	551 42
Hudson	2,929 63	-	-	-	-	-	3,702 91
Hull	5,000 00	-	-	-	-	-	5,000 00
Huntington	500 68	356 50	-	-	-	-	702 89
Ipswich	2,871 41	-	-	-	-	-	3,899 02
Kingston	869 45	1,123 67	277 50 222 55 *98 28	254 22	41 99	296 21	1,226 31
Lakeville	567 38	926 76	-	359 38	380 73	740 11	700 31
Lancaster	1,518 84	-	-	-	-	-	1,530 56
Lanesborough	407 78	-	-	-	-	-	593 04
Lawrence	5,000 00	-	-	-	-	-	5,000 00
Lee	2,311 81	-	-	-	-	-	2,739 24
Leicester	1,679 19	-	-	-	-	-	2,126 21
Lenox	3,079 43	-	-	-	-	-	3,170 37
Leominster	5,000 00	-	-	-	-	-	5,000 00
Leverett	225 90	-	-	-	-	-	247 62

* Lead sold.

Cities and Towns	1925						1926
	Required Expenditures	Total Net Expenditures	Private Work	Reimbursement	Tools supplied	Total Amount received from State	Required Expenditures
Lexington . . .	\$4,395 32	-	-	-	-	-	\$5,000 00
Leyden . . .	141 11	\$175 00	-	-	-	-	146 29
Lincoln . . .	927 85	-	-	-	-	-	1,410 60
Littleton . . .	690 16	689 20	\$21 25 *241 80	-	\$832 88	\$831 92	853 37
Longmeadow . . .	2,367 34	-	-	-	-	-	3,264 26
Lowell . . .	5,000 00	-	-	-	-	-	5,000 00
Ludlow . . .	3,747 71	-	-	-	-	-	4,432 07
Lunenburg . . .	761 84	264 72	530 60 *278 36	-	516 78	-	825 72
Lynn . . .	5,000 00	-	-	-	-	-	5,000 00
Lynnfield . . .	869 87	1,398 09	569 50	\$528 22	523 08	1,051 30	1,162 73
Malden . . .	5,000 00	-	-	-	-	-	5,000 00
Manchester . . .	5,000 00	-	-	-	-	-	5,000 00
Mansfield . . .	2,837 24	-	-	-	-	-	4,542 62
Marblehead . . .	5,000 00	-	-	-	-	-	5,000 00
Marion . . .	1,486 54	-	-	-	-	-	1,940 36
Marlborough . . .	5,000 00	-	-	-	-	-	5,000 00
Marshfield . . .	1,354 29	-	-	-	-	-	2,063 19
Mashpee . . .	242 70	838 45	352 00	595 75	586 51	1,182 26	309 42
Mattapoisett . . .	947 30	-	-	-	-	-	1,326 19
Maynard . . .	2,527 51	-	-	-	-	-	4,230 12
Medfield . . .	964 20	-	-	-	-	-	1,282 77
Medford . . .	5,000 00	-	-	-	-	-	5,000 00
Medway . . .	1,101 94	-	-	-	-	-	1,478 11
Melrose . . .	5,000 00	-	-	-	-	-	5,000 00
Mendon . . .	376 02	-	-	-	-	-	502 73
Merrimac . . .	800 97	803 68	181 27	-	85 08	85 08	1,014 54
Methuen . . .	5,000 00	-	-	-	-	-	5,000 00
Middleborough . . .	2,936 92	-	-	-	-	-	4,318 00
Middlefield . . .	140 94	-	-	-	-	-	145 10
Middleton . . .	481 36	360 11	210 95	-	201 35	-	681 49
Milford . . .	5,000 00	-	-	-	-	-	5,000 00
Millbury . . .	2,189 15	-	-	-	-	-	3,086 71
Millis . . .	1,038 34	-	-	-	-	-	1,438 02
Millville . . .	668 31	-	-	-	-	-	1,035 71
Milton . . .	5,000 00	-	-	-	-	-	5,000 00
Monroe . . .	239 14	-	-	-	-	-	419 10
Monson . . .	1,079 54	-	-	-	-	-	1,699 76
Montague . . .	4,574 48	-	-	-	-	-	5,000 00
Monterey . . .	232 76	-	-	-	-	-	321 92
Montgomery . . .	100 35	48 65	-	-	-	-	107 27
Mount Washington . . .	90 27	-	-	-	-	-	90 96
Nahant . . .	2,091 84	-	-	-	-	-	2,354 33
Nantucket . . .	2,472 30	-	-	-	-	-	3,862 23
Natick . . .	5,000 00	-	-	-	-	-	5,000 00
Needham . . .	4,934 64	-	-	-	-	-	5,000 00
New Ashford . . .	48 54	-	-	-	-	-	60 61
New Bedford . . .	5,000 00	-	-	-	-	-	5,000 00
New Braintree . . .	231 64	-	-	-	-	-	265 92
New Marlborough . . .	641 09	-	-	-	-	-	711 54
New Salem . . .	246 44	-	-	-	-	-	340 11
Newbury . . .	1,089 52	1,066 02	793 35 *393 90	-	514 54	491 04	1,191 92
Newburyport . . .	5,000 00	-	-	-	-	-	5,000 00
Newton . . .	5,000 00	-	-	-	-	-	5,000 00
Norfolk . . .	629 89	809 30	279 05	179 41	188 11	367 52	829 40
North Adams . . .	5,000 00	-	-	-	-	-	5,000 00
North Andover . . .	4,173 28	-	-	-	-	-	4,760 94
North Attleborough . . .	4,210 31	-	-	-	-	-	5,000 00
North Brookfield . . .	1,074 89	-	-	-	-	-	1,516 56
North Reading . . .	655 87	621 35	402 55	-	20 19	-	826 46
Northampton . . .	5,000 00	-	-	-	-	-	5,000 00
Northborough . . .	889 14	-	-	-	-	-	953 83
Northbridge . . .	4,949 85	-	-	-	-	-	5,000 00
Northfield . . .	760 15	-	-	-	-	-	1,111 38
Norton . . .	936 11	-	-	-	-	-	1,424 37
Norwell . . .	642 47	1,144 98	751 50 *10 08 †200 00	502 51	448 27	950 78	810 99
Norwood . . .	5,000 00	-	-	-	-	-	5,000 00
Oak Bluffs . . .	1,226 88	-	-	-	-	-	1,762 41
Oakham . . .	193 67	231 11	173 41	37 44	-	37 44	217 79
Orange . . .	2,328 56	-	-	-	-	-	3,127 79
Orleans . . .	698 50	1,158 80	481 34	460 30	400 37	860 67	1,572 13
Otis . . .	177 12	-	-	-	-	-	236 88
Oxford . . .	1,190 82	-	-	-	-	-	1,725 64

* Lead sold.

† Elm beetle work.

Cities and Towns	1925						1926
	Required Expenditures	Total Net Expenditures	Private Work	Reimbursement	Tools supplied	Total Amount received from State	Required Expenditures
Palmer	\$4,605 41	-	-	-	-	-	\$5,000 00
Paxton	240 95	\$80 10	\$48 16	-	-	-	421 16
Peabody	5,000 00	-	-	-	-	-	5,000 00
Pelham	253 76	-	-	-	-	-	291 95
Pembroke	634 63	1,439 54	391 40	\$804 91	\$1,688 20	\$2,493 11	1,068 59
Pepperell	1,349 54	-	-	-	16 65	-	1,783 55
Peru	110 48	-	-	-	-	-	167 42
Petersham	618 14	-	-	-	-	-	824 07
Phillipston	165 17	109 05	42 00	-	-	-	203 40
Pittsfield	5,000 00	-	-	-	-	-	5,000 00
Plainfield	124 48	-	-	-	-	-	180 31
Plainville	751 24	1,071 99	68 00	320 75	218 28	539 03	807 11
Plymouth	5,000 00	-	-	-	-	-	5,000 00
Plympton	261 37	619 73	183 70	358 36	283 63	641 99	361 99
Prescott	130 99	91 00	121 50	-	-	-	151 65
Princeton	505 54	-	-	-	276 27	-	603 93
Provincetown	1,683 30	-	-	-	-	-	2,067 01
Quincy	5,000 00	-	-	-	-	-	5,000 00
Randolph	1,412 96	-	-	-	-	-	1,860 01
Raynham	580 95	534 28	339 25	-	258 74	212 07	859 27
Reading	4,221 89	-	-	-	-	-	5,000 00
Rehoboth	703 28	-	-	-	-	-	929 27
Revere	5,000 00	-	-	-	-	-	5,000 00
Richmond	269 50	-	-	-	-	-	381 30
Rochester	515 84	515 84	-	-	142 33	142 33	640 19
Rockland	3,103 36	-	-	-	-	-	3,970 00
Rockport	2,055 83	-	-	-	-	-	2,282 93
Rowe	142 58	162 55	-	-	-	-	175 56
Rowley	531 27	1,017 63	402 59 *117 60	613 86	1,546 04	2,159 90	586 03
Royalston	508 85	-	-	-	-	-	645 44
Russell	1,481 77	-	-	-	-	-	2,533 48
Rutland	492 11	389 27	149 95	-	-	-	654 57
Salem	5,000 00	-	-	-	-	-	5,000 00
Salisbury	1,062 69	1,103 83	371 02 *15 75	41 14	1,233 98	1,275 12	1,222 22
Sandisfield	220 85	-	-	-	-	-	300 59
Sandwich	718 47	1,170 32	97 05 *107 40	451 85	408 10	859 95	1,088 36
Saugus	3,615 83	-	-	-	-	-	4,572 32
Savoy	114 40	-	-	-	-	-	131 07
Scituate	3,150 24	-	-	-	-	-	4,401 05
Seekonk	1,096 24	-	-	-	-	-	1,775 15
Sharon	1,651 94	-	-	-	-	-	2,222 03
Sheffield	664 63	-	-	-	-	-	664 61
Shelburne	1,039 02	-	-	-	-	-	1,338 08
Sherborn	813 47	1,389 40	398 01	17 73	386 74	404 47	729 26
Shirley	992 28	992 21	156 14	-	1 80	1 73	1,244 44
Shrewsbury	2,069 06	-	-	-	-	-	2,509 55
Shutesbury	180 98	125 25	27 25	-	-	-	193 56
Somerset	1,245 93	-	-	-	-	-	2,035 39
Somerville	5,000 00	-	-	-	-	-	5,000 00
South Hadley	2,542 59	-	-	-	-	-	3,362 54
Southampton	329 42	101 25	30 50	-	-	-	403 02
Southborough	1,373 10	-	-	-	-	-	1,507 66
Southbridge	5,000 00	-	-	-	-	-	5,000 00
Southwick	629 81	-	-	-	-	-	927 80
Spencer	1,772 59	-	-	-	-	-	2,148 01
Springfield	5,000 00	-	-	-	-	-	5,000 00
Sterling	638 80	510 61	12 49 *158 80	-	212 89	84 70	712 88
Stockbridge	2,433 19	-	-	-	-	-	2,514 39
Stoneham	3,294 15	-	-	-	-	-	4,372 54
Stoughton	2,655 28	-	-	-	-	-	3,469 49
Stow	681 68	995 90	45 50 * 358 35	314 22	1,598 41	1,912 63	834 30
Sturbridge	559 55	427 59	131 55	-	1 81	-	721 72
Sudbury	949 06	821 96	320 00 *88 15	-	367 41	240 31	983 40
Sunderland	426 06	-	-	-	-	-	644 64
Sutton	942 75	-	-	-	-	-	1,058 32
Swampscott	5,000 00	-	-	-	-	-	5,000 00
Swansea	952 26	-	-	-	-	-	1,513 48
Taunton	5,000 00	-	-	-	-	-	5,000 00
Templeton	1,354 47	-	-	-	-	-	1,903 53
Tewksbury	1,270 39	1,821 00	615 07	550 61	527 07	1,077 68	1,480 27
Tisbury	1,038 03	-	-	-	-	-	1,824 75

* Lead sold.

Cities and Towns	1925						1926
	Required Expenditures	Total Net Expenditures	Private Work	Reimbursement	Tools supplied	Total Amount received from State	Required Expenditures
Tolland	\$151 22	—	—	—	—	—	\$191 47
Topsfield	1,196 62	—	—	—	—	—	1,279 56
Townsend	912 39	\$1,017 37	\$324 17	\$104 98	\$339 21	\$444 19	1,121 61
Truro	285 94	629 89	49 00	343 95	38 50	382 45	410 28
Tyngsborough	413 76	840 54	23 00	426 78	69 18	495 96	567 81
Tyringham	201 43	—	—	—	—	—	223 24
Upton	653 02	—	—	—	—	—	669 88
Uxbridge	2,863 14	—	—	—	—	—	3,965 12
Wakefield	5,000 00	—	—	—	—	—	5,000 00
Wales	177 56	—	—	—	—	—	227 00
Walpole	3,875 00	—	—	—	—	—	5,000 00
Waltham	5,000 00	—	—	—	—	—	5,000 00
Ware	3,271 36	—	—	—	—	—	4,741 57
Wareham	3,516 97	—	—	—	—	—	4,904 70
Warren	1,939 81	—	—	—	—	—	2,640 13
Warwick	235 25	—	—	—	—	—	263 43
Washington	144 54	—	—	—	—	—	116 88
Watertown	5,000 00	—	—	—	—	—	5,000 00
Wayland	1,733 70	—	—	—	—	—	1,958 77
Webster	5,000 00	—	—	—	—	—	5,000 00
Wellesley	5,000 00	—	—	—	—	—	5,000 00
Wellfleet	424 25	743 01	178 15 *2 88	318 76	187 70	506 46	505 77
Wendell	403 79	—	—	—	—	—	512 14
Wenham	1,291 66	—	—	—	—	—	1,364 56
West Boylston	556 64	319 02	218 65 *101 40	—	278 14	40 52	685 16
West Bridgewater	895 45	1,494 97	810 15 *47 46	599 52	661 28	1,260 80	1,140 72
West Brookfield	570 45	—	—	—	—	—	681 92
West Newbury	472 22	545 97	190 50 *69 00	73 75	1,401 91	1,475 66	485 02
West Springfield	5,000 00	—	—	—	—	—	5,000 00
West Stockbridge	400 68	—	—	—	—	—	594 07
West Tisbury	272 81	—	—	—	—	—	366 92
Westborough	1,659 34	—	—	—	—	—	1,762 81
Westfield	5,000 00	—	—	—	—	—	5,000 00
Westford	1,929 04	—	—	—	—	—	2,442 46
Westhampton	149 47	91 30	—	—	—	—	172 93
Westminster	520 63	325 55	140 15 *121 05	—	105 77	—	584 29
Weston	2,585 58	—	—	—	—	—	3,494 66
Westport	1,984 97	—	—	—	—	—	2,712 62
Westwood	1,241 34	—	—	—	—	—	1,671 13
Weymouth	5,000 00	—	—	—	—	—	5,000 00
Whately	433 39	—	—	—	—	—	638 20
Whitman	2,862 98	—	—	—	—	—	3,729 78
Wilbraham	1,129 34	—	—	—	—	—	1,616 38
Williamsburg	646 08	—	—	—	—	—	841 61
Williamstown	2,510 54	—	—	—	—	—	3,126 96
Wilmington	1,058 48	1,250 19	673 67	191 71	679 42	871 13	1,277 65
Winchendon	2,565 40	—	—	—	—	—	3,295 34
Winchester	5,000 00	—	—	—	—	—	5,000 00
Windsor	171 37	—	—	—	—	—	202 69
Winthrop	5,000 00	—	—	—	—	—	5,000 00
Woburn	5,000 00	—	—	—	—	—	5,000 00
Worcester	5,000 00	—	—	—	—	—	5,000 00
Worthington	226 15	—	—	—	—	—	268 48
Wrentham	877 50	—	—	—	—	—	1,276 22
Yarmouth	1,041 58	977 24	114 00	—	453 42	389 08	1,291 56

* Lead sold.